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5. **HARDWOOD PINS.**—In pinning frame buildings together, such as barns, bridges, timber roofs, etc., is it better to use dry hickory than that which is green or partly seasoned?—A. P. G.

### Correspondence.

#### Mansard Hips.

*To the Editor of the Illustrated Wood-Worker:*

Let "A Subscriber" try the following to get the curve of a hip rafter: Fig. 1, Plate 7, is the common rafter, A B the seat, C D the seat of the hip (an angle of 45°). Make as many points on the curve of the common rafter as you like, and from those points drop plumb ordinates cutting C D; transfer C D with all the points thereon to a level line, as C D, Fig. 2, and from those points erect plumb ordinates each of the same length as its corresponding number in Fig. 1, and the points thus found are points on the curve of the hip. This may be old for all I know, but it is good and reliable.

ALONZO.

BOSTON, Nov. 14, 1878.

### Technical Education.

It has become quite the thing of late to write concerning the great necessity that exists for an improvement in the technical education of the masses, and as a result the inquiry is now by no means infrequent, What is technical education? We intend in the present and future issues of this paper to answer this query by giving our readers an opportunity to cull from our pages such information as will convince them as to what is technical education. The plasterer who burns his lime, slakes it, mixes it with sand, and finally makes it into mortar, may thoroughly understand the mechanical processes by which the raw stone is converted into mortar; and, therefore, be a practical "hand" in the manufacture of mortar; but how few plasterers there are that understand the chemical change that takes place in the constituents they employ. Again, the painter possibly knows nothing of the chemical constituents of the various substances he uses, or the reason why such and such effects are produced by the materials he employs. How much better workman he would be if possessed of that knowledge, must be evident to the least observant. A knowledge of the "why," in every branch of trade, would be of immense service to all concerned in the work, and the superior intelligence of the workman would most assuredly enhance the value of the work produced, as it would bear the impress of

superior skill and workmanship, and increase his value as a workman.

Chemistry, mining, geology—science and art—should go out together into all our cities, towns, and hamlets, assisted by government subsidies. No money could be better spent, for technical education would then become general, workmen more valuable, foreign competition from any point reduced to a minimum, the "level" of wages would become an obsolete phrase, and the chances of strikes all but impossible. It would also soon be observed that "waste" in all trades would be greatly reduced in quantity; and thus for the expenditure of a few thousands a year, for say the next ten years, there would ensue to the nation a gain of millions. This would be a casting of the bread on the waters productive of a safe return.

No doubt the stimulus given to the study of art and science since the Centennial Exhibition has been productive of immense material results; it may safely be asserted that the spreading of the knowledge of chemistry, geology, and mechanics amongst the working and the growing youth of the population would be twenty times more productive.

Something should be done in this direction before long, and we hope that our legislators will lay aside their political squabbles for a time, and wrestle with something that will be of real and lasting good to the nation. It is all very well to tell the workman that he possesses the franchise, and should therefore rest content; politically, this is but a poor substitute for the strength and blessings that education bestows.

### House-Planning.

If persons who are about to have houses erected, either for their own use or for the use of their tenants, would give the subject as much thought as they would expend on any other equally important subject, there would be fewer badly constructed and ill-devised than there now are. Each family, for organic and numeral reasons, requires a house different and distinct in appointment and character from that of any of its neighbors. It is quite true that families, different in characteristics, may live and enjoy a certain amount of comfort in similarly constructed and appointed houses, but this apparent enjoyment is obtained at the expense of overwork or inconvenience of some one or more of the members of the household. When the houses are rented, this overwork or inconvenience cannot well be avoided, but it may be mitigated by a little foresight and ingenuity on the part of the members; but, in a new house, built for the persons who are